MEDICAL MARIJUANA: A LOSS OF BENEFITS?

Medical Marijuana: A Loss of Benefits?

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Certification Statement

I herby certify that this paper constitutes my own product, that where the language of others is set forth, quotation marks so indicate, and that appropriate credit is given where I have used the language, ideas, expressions, or writings of another.

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Abstract

The Castle Rock Fire and Rescue Department provides service in a state where medical marijuana has been legalized. Based on the fact that employees could use or be exposed to medical marijuana, testing positive for marijuana could jeopardize injury or death benefits for department personnel. Therefore, the purpose of this research was to determine what impacts, as it relates to death or injury benefits, the use of or exposure to medical marijuana would have on department personnel if they are injured or killed in the line of duty.

The department was able to address the problem through the following research questions:

- What is the history of the use of or exposure to medical marijuana by department personnel?
- Is it possible for firefighters to test tetrahydrocannabinol (THC) positive from being exposed to medical marijuana?
- If it is possible to test THC positive from exposure, can the level of THC indicate whether it was due to an exposure or from use of medical marijuana?
- What are the positions of the Department of Justice (DOJ) and life insurance companies in providing injury or death benefits to a firefighter who is THC positive either through use or exposure?

Using the Descriptive Research Method, standard applied research paper procedures were followed. A combination of survey studies, personal interviews, and Internet searches provided the results necessary to develop recommendations. The results found that there is very limited information on this issue, and that benefits could indeed be denied if marijuana is present in the system. The recommendations included implementing a policy on medical marijuana, using

technical resources to determine functional limits, requesting further study of this issue, engaging the Public Safety Officers Benefit to take a proactive position, remaining focused on the vision of the department, and emphasizing the importance of research to fire and EMS.

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Introduction

Cheech and Chong. The Doobie Brothers. Jeff Spicoli in the movie *Fast Times at Ridgemont High*. All three of these examples hold one thing in common, and that is marijuana. And while marijuana has been referred to as dope, doobies, weed, hash, joints, mary jane, along with countless other names, the name that is now causing an issue is medical, as in medical marijuana.

As of January 2011, fifteen states and the District of Columbia have "legalized" the use of medical marijuana (Procon.org, 2011). The term "legalized" is in parentheses because while these states and the District have made it legal to use at the state and local level, the federal government lists marijuana as a schedule 1 drug under United Stated (US) Drug Enforcement Agency (DEA) number 7360, and classifies it as illegal (US DEA, 2011). This creates a significant conflict between state law and federal law that has not been clearly addressed.

So, if medical marijuana has been legalized in Colorado, then presumably any citizen, including firefighters, law enforcement officers, Emergency Medical Services (EMS) personnel, nurses, and physicians, could be legally using marijuana while serving in a public safety capacity. From a firefighting and EMS perspective, this could be a significant problem for those personnel who may be injured or killed in the line of duty as they may not receive federal or life insurance benefits because they were using, or potentially exposed to, an illegal drug.

The research problem is that the Castle Rock Fire and Rescue Department has not assessed what the potential financial impacts will be to department personnel injured or killed in the line of duty who are either using medical marijuana legally or exposed to it while in the performance of their normal job duties. Therefore, the research purpose is to determine what

impacts, as it relates to death or injury benefits, the use of or exposure to medical marijuana will have on department personnel if they are injured or killed in the line of duty.

Using the Descriptive Research Method (*Applied Research Self-Study Guide*, 2004), the department should be able to identify potential financial issues that could negatively affect department personnel. Specifically, the research will answer the following questions:

- What is the history of the use of or exposure to medical marijuana by department personnel?
- Is it possible for firefighters to test tetrahydrocannabinol (THC) positive from being exposed to medical marijuana?
- If it is possible to test THC positive from exposure, can the level of THC indicate whether it was due to an exposure or from use of medical marijuana?
- What are the positions of the Department of Justice (DOJ) and life insurance companies in providing injury or death benefits to a firefighter who is THC positive either through use or exposure?

Background and Significance

The Castle Rock Fire and Rescue Department (CRFD) provides service to an area that covers seventy-five square miles of central Douglas County in the State of Colorado (Town of Castle Rock, 2011). At an elevation of 6,202 feet along the Interstate 25 corridor between Denver and Colorado Springs, the town is considered not only part of the Denver metro area, but as part of the Front Range as well. The department provides all hazard primary response to the Town of Castle Rock and the Castle Rock Fire Protection District. Additionally, the department may respond to incidents throughout the metro area as requested through existing mutual and auto aid agreements as well as being a participating agency in the Arapahoe Douglas Hazardous

Materials Response Team, and Colorado Task Force 1, one of the national urban search and rescue (USAR) teams. The department also provides advanced life support (ALS) transport for the Jackson 105 Fire Protection District on an auto aid basis. As a bedroom community located along a major interstate and rail corridor and as the county seat, Castle Rock and the surrounding district has grown from approximately 7,500 people in 1986 to approximately 50,000 people today (Town of Castle Rock, 2010). There are seventy-one people on the department of which sixty-three are assigned to operations, four to the fire prevention bureau, one to training, and three in admin.

The Castle Rock Fire and Rescue Department's Vision Statement is, "To be the best at providing emergency and prevention services" (CRFD, 2008), and the Mission Statement is, "High customer satisfaction through quality preparation and excellent service" (CRFD, 2008). The department's values are strength, honor, integrity, excellence, leadership, dedication, and service, which forms the acronym "SHIELDS" (CRFD, 2008). In looking at all three of these items, these set the tone for how the department operates as well as setting expectation levels for both the internal and external customer.

The potential problem with medical marijuana is very serious due to the fact that although it has been legalized at the state level (Colorado Department of Public Health and Environment [CDPHE], 2010), it remains an illegal drug according to the federal government (US DEA, 2011). "Marijuana retains its status as a Schedule I controlled substance, the legal equivalent of heroin and LSD, with a 'high potential for abuse' and 'no currently accepted medical use'" (Ferguson, 2010, p. 38). Therefore, a significant conflict exists in the definition of legal, and the question of state's rights over federal law poses a challenge to anyone using or potentially exposed to medical marijuana. As stated previously, if firefighters are using medical

marijuana as legalized by the state of Colorado, what will happen to their federal public safety officers' benefits (PSOB) and life insurance benefits if they suffer a line of duty death (LODD) or injury and are found to be THC positive? Furthermore, if firefighters are exposed to medical marijuana through the course of their duties and suffer a LODD or injury, will they test positive for THC from an occupational exposure, and again, how would their benefits be affected?

The reason that this is a problem for the department is threefold. First, the department has previously had members with significant medical issues, such as throat cancer, Lou Gehrig's disease, and a significant eye dysfunction that required surgery, where medical marijuana could have been prescribed as a medication to alleviate symptoms. Second, members of the department have responded on calls for service to patients legally using medical marijuana as well as medical marijuana dispensaries where exposure to THC may have existed. Finally, members have also responded to calls, such as structure fires and medical assists, in private residences that are licensed to grow medical marijuana, where they may have been exposed to THC as a result of their normal job function.

Currently, the Town of Castle Rock (TCR) has one authorized medical marijuana dispensary, an unknown number of authorized, legal caregivers, and an unknown number of authorized, legal grow houses. The number of caregivers and grow houses are unknown because there is no ability for the town to track this information, and there is no requirement for the state to notify the town on these operations due to patient privacy laws. The issue of medical marijuana dispensaries, grow houses, and caregivers has been addressed by the Town, which resulted in a lawsuit being filed against the Town. There is now a ballot question that will go before the voters on this issue in April 2011 (Town of Castle Rock, 2011).

According to CDPHE, there are 3,262 patients in Douglas County that are currently registered as medical marijuana patients (CDPHE, 2010). This represents 3% of all patients registered in the state, but moreover, fifty-eight percent of all medical marijuana patients reside in the seven county Denver metro area (CDPHE, 2010). These numbers indicate that this is certainly an issue for the department.

These are reason enough to evaluate this problem as the department does not currently have any policies in place addressing this specific issue. The Town does have a policy on drug and alcohol use as it relates to federal law, and it also addresses the use of prescribed drugs (TCR Personnel Guidelines, 2005, p. 3-2). However, these policies do not specifically address medical marijuana, and if a member were injured or killed and tested THC positive, the department is not in a position to provide guidance or direction to the member, the member's family, or for that matter, to the department itself. The potential exists that a department member could be denied benefits from either using a state legalized drug or being exposed to it, which could result in severe, negative, long-term financial impacts to the member and family. Based on history to date and looking at the present issues associated with medical marijuana, the department and members could experience an increase in the opportunity for loss or exposure in the future as the prevalence and acceptance of medical marijuana becomes more commonplace.

Finally, the Executive Fire Officer Program (EFOP) strongly emphasizes and encourages chief officers to take a critical look at the fire service and their organizations to effectively address any one of the five strategic initiatives of the United States Fire Administration (USFA). This problem directly relates to the USFA Mission of, "We provide National leadership to foster a solid foundation for our fire and emergency services stakeholders in prevention, preparedness, and response", Goal 1, "Reduce risk at the local level through prevention and mitigation" as it

relates to the strategic initiative of line of duty death and injuries (USFA, 2011). The problem also relates to Goal 4, "Improve the fire and emergency services' professional status" (USFA, 2011). Addressing this problem before an incident occurs meets goal 1 by reducing the risk through prevention and mitigation. Being proactive, as opposed to reactive, to research the issue and potentially having a response or policy in place is the intent of prevention and mitigation. Completing the research necessary to review this issue and then implementing a program, policy, or directive meets the strategic initiative of professional development as it relates to goal 4.

This issue is timely, relevant, and poses a significant challenge for the department. It also relates to *Executive Leadership* in the context that executive leadership qualities include vision, risk taking, and courage (*Executive Leadership,* 2005). This issue carries significant challenges to both department personnel and the department itself. Utilizing effective leadership skills will be required to ensure that the problem is addressed in a manner that is acceptable to both groups. This is also in line with adaptive leadership, as it would be easy to apply a technical solution to this problem. However, it also requires a change in people in that they need to learn a new way, or look outside the box, to adapt to and then resolve the problem (Heifetz & Linksy, 2002).

Therefore, using the Descriptive Research Method (*Applied Research Self-Study Guide*, 2004), my research into this issue should provide guidance and direction that the department can take to effectively address the problem and prevent a negative experience in the future.

Literature Review

As is required of any research and as standard practice for all EFOP research papers, a literature review was conducted to, "find out what others have said or done previously that relates to your problem", "provide other perspectives and contrasting views of the problem, and give you additional ideas about possible ways to approach it", and "avoid duplicating research

that has already been done" (*EFOP Applied Research Self-Study Guide*, 2004, p. 25). As has been demonstrated in the past, the intent behind the literature review was to determine what research, if any, had already been done on the topic of medical marijuana and what those results were. In addition, the review was done to determine what policies, guidance, or directives currently exist, if exposure to THC could result in a positive THC test, if a THC test can determine if the levels are due to use or exposure, and to determine what the DOJ and insurance companies positions and policies are regarding benefits for members who test THC positive.

The literature review began in the Learning Resource Center (LRC) at the National Fire Academy (NFA) in July 2010. After completing a search of existing documents in the LRC, there was nothing that specifically addressed the use or exposure to medical marijuana as it relates to the problem. In speaking with one of the librarians present, she stated that while she didn't know everything they had in the LRC, she knew a significant amount of their documents, and she was not aware of anything that related to medical marijuana (Croom, personal communication, August 2nd, 2010).

In fact, the only documentation that existed on medical marijuana involved the hazards associated with responses to marijuana grow houses (Gustin, 2010, and Vernon, 2009). Both of these articles discussed physical hazards that could be encountered in grow houses, but neither addressed the issue of THC and exposure.

After reviewing the limited articles on this topic, the database search was then expanded to the Internet. The intent was to find fire service agencies that had addressed the problem. This, too, resulted in no formal articles or research being found on the problem, only the two articles previously referenced about responses. The search was further expanded to look for any public safety agency who had encountered this challenge, also with negative results, thus

resulting in the search to be finally expanded to any documentation by any discipline. As far as the research problem was concerned, there has been no specific research or publications on this topic as it relates to the fire service. There was one document found from the Department of Transportation (DOT) Office of Drug and Alcohol Compliance that stated, "…marijuana remains a drug listed on in Schedule I…and it remains unacceptable for any safety-sensitive employee subject to drug testing under the Department of Transportation's drug testing regulations to use marijuana" (DOT, 2009). Obviously, there was no information available specific to the department, but there was also no information that any other public safety agency had addressed whether this was a problem in their agency or not, other than the referenced DOT document. Therefore, the literature review found no information on the first research question. Information was found on some of the other research questions, and this is addressed below.

With the increase in the use of medical marijuana along with the potential for exposure, existing research appears to be inconclusive as to whether or not an individual can test THC positive after being exposed to THC either by smoke or physical contact. While there was no literature found discussing the potential for THC to be absorbed due to job-related exposure, one known method of acquiring THC is through ingestion from food products (Fortner, Fogerson, Lindman, Iverson, & Armbruster, 1997). Currently, the two primary means are through smoking and vaporization, but the literature is inconsistent when determining if THC can be absorbed through second hand smoke.

Hayden (1991) writes that while studies have been done to try to determine if THC can be transmitted through passive inhalation, most of them do support the theory that a person could potentially test THC positive in a urine test if they have been exposed to second hand smoke. However, these studies were done in the lab setting, and he goes on to write, "experimental

conditions that are required to produce positive test results indicates that passive inhalation does not have a major effect outside the laboratory and should not affect drug test results in the workplace".

In *The Report of the Canadian Government Commission of Inquiry into the Non-Medical Use of Drugs* – 1972 as found on the Schaffer Library of Drug Policy, research showed that, "although the literature is inconsistent, it would appear that approximately one-half of the THC and THC acids present in a cannabis cigarette are available as THC in the smoke after combustion". This same report also discusses the fact that THC can be absorbed through ingestion from eating cannabis.

Cone, Johnson, Darwin, Yousefnejad, Mell, Paul, and Mitchell (1987) found that subjects exposed to high levels of second hand smoke could have positive THC urine tests, but that the control conditions were very strict, including a small, unventilated room. When exposed to lower levels of smoke exposure, the subjects typically test negative and only occasionally tested positive. Their position is that room air levels play a significant role in whether a person would have a positive urine test or not. So, it appears that it may be possible to test THC positive from exposure to second hand smoke. This leads to the third research question of whether or not THC levels can indicate use or exposure.

Marijuana has increasingly become more THC potent over the years from around 4 percent in 1983 to 10 percent in 2008 (Meserve and Ahlers, 2009). THC is the primary psychoactive chemical, and typically, the effects of THC wear off in a couple of hours. However, the chemicals and associated metabolites remain in the body for a much longer length of time (Bonsor, 2010). Bonsor goes on to write that the terminal half-life of THC ranges from

20 hours to 10 days depending on the potency of the marijuana. The longer the half-life, the longer it will remain in the body.

The two primary means of determining THC are done by urinalysis and blood tests. Urine testing does not indicate impairment as it is measuring only the THC metabolites, which simply indicates use. A positive urine test typically indicates that a person has used marijuana within the last three weeks unless the person being tested is a heavy user in which case the time frame could be longer than three weeks (Drug Policy Education Group [DPEG], 2010). Light users may not test positive within a week, but as with all tests, a person's body composition and metabolism as well as fluid intake can all affect a urinalysis test. DPEG also states that urine tests will show negative results if done immediately after a person has used marijuana. This is because the THC has not had time to metabolize in the system, so a person could be impaired but test negative for up to a couple of hours after use.

Blood tests appear to provide a more definitive result as the THC is measured in nanograms per milliliter (ng/ml) of blood, and do measure the immediate level of THC in the blood, unlike urine (DPEG, 2010). While the level of THC does indicate impairment, the longer a person goes without testing, the level of THC continues to decrease similar to that of alcohol. Some "key points" from DPEG state that a blood alcohol content of .08% is equal to a THC level of 9-10 ng/ml in blood serum, THC levels could exceed 20 ng/ml for a person who has used marijuana within an hour of the test, and that a person who used marijuana either 48 hours earlier or was exposed to second hand smoke could show 0-2ng/ml in a blood test (DPEG, 2010).

The National Highway Traffic Safety Administration (NHTSA) has published a fact sheet on cannabis as it relates to drugs and human performance. NHTSA states that depending on the potency of the marijuana, peak levels of 100-200 ng/ml have been seen, but that levels

typically drop to less than 5 ng/ml within about three hours. NHTSA lists elimination half-lives at 3-4 days, and that test in occasional users would "fall below the limits of quantitation within 8 to 12 hours" (NHTSA, 2010).

The National Organization to Reform Marijuana Laws (NORML) has also stated that THC blood levels typically fall below 5 ng/ml within ninety minutes, and that 5 ng/ml in whole blood equals 10 ng/ml in blood serum. Therefore, a realistic field test for impairment would be positive at 5 ng/ml (NORML, 2005).

The final research question on positions of the insurance companies as well as the DOJ also proved to have little information. While there are a lot of general statements that abound, detail was minimal. Some insurance companies provide quotes and information on their policies via the web. In trying to determine whether marijuana would prevent either a policy being issued or cancelled, only three examples were found.

Insure.com provides a useful document on the basics of term life insurance. As with most insurance policies, a medical exam would be required as well as completion of a health history questionnaire. Obviously, smokers will pay more for insurance as their risk is higher, but they also state, "If you smoke marijuana but not cigarettes, you still must admit to being a smoker on the policy application. Insurers don't generally differentiate between different types of smoke inhalation" (Insure.com, 2010). They also note that marijuana users must also list their drug use on the application.

On a frequently asked questions (FAQ) page on fedprimerate.com, the specific question of, "Will my life insurance policy still pay a death benefit if I die and alcohol or marijuana is found in my system" (FedPrimeRate.com, 2010)? As with most insurance companies, the answer was, "It depends". There are several factors that are taken into consideration, including

how long the policy has been in effect, what was the cause of death, what the medical records indicate, and whether or not the application was falsified by not admitting to marijuana use. The key issue is falsification of the application and if this is found to be true, then the company would not have to pay a claim. Otherwise, a determination would be made based upon a review of the information obtained during the company's investigation.

Beyondquotes.com has a specific page on life insurance as it relates to marijuana use. While the use of marijuana is tested for and may make an individual ineligible to obtain a policy, typically, use by itself is, "not something that will make you ineligible" (Beyondquotes.com, 2010). Documentation would be needed on the history of use, whether one is currently using or not, and a drug test would be required, but even if a person has used in the last five years, they should still be eligible for insurance. However, a person may or may not be charged at smokers rates, and the most desirable rates would probably not be available.

In reviewing Title 42 United States Code (U.S.C.) Chapter 46, Subchapter XII, Part A, Death Benefit as it relates to PSOB, Section 1204, *Definitions*, item (5) defines intoxication as, "a disturbance of mental or physical faculties resulting from the introduction of alcohol in the body….or resulting from drugs or other substances in the body" (U.S.C., 1976). Drugs or other substances are defined as, "controlled substances within the meaning of the drug control and enforcement laws, at 21 U.S.C. 802(6) (U.S.C., 1976). In looking further at the regulations of the PSOB as defined in 28 Code of Federal Regulations (C.F.R.) Part 32 *PSOB Death, Disability, and Educational Assistance Benefit Claims*, Subpart A, *General Provisions*, Section 32.3, *Definitions*, the definition of voluntary intoxication with respect to drugs or other substances, subsection 2 (i) states, "Of any controlled substance included on Schedule 1 of the drug control and enforcement laws…unless convincing evidence demonstrates that such

introduction was not a culpable act of the officer's under the criminal laws…" (28 C.F.R., Part 32, 1976). As previously mentioned, marijuana is listed as a schedule 1 drug.

When addressing the issue of benefits for purposes of a claim, the PSOB gives fairly wide latitude to the PSOB determining official to decide whether or not intoxication was voluntary. The determining official can render a decision even if toxicology tests were not completed or not submitted and there is credible evidence that this was a factor in the death. It goes on to state that the same determining official may also decide on voluntary intoxication if the public safety officer consumed any Schedule 1 drugs (28 C.F.R. Part 32, 1976).

Finally, under Section 1202, Limitations, Subsection 2, it clearly states that, "No benefit shall be paid if the public safety officer was voluntarily intoxicated at the time of his death or catastrophic injury" (42 U.S.C. Chapter 46, 1976). Therefore, based on law, the position of the PSOB is that if a firefighter were to knowingly consume medical marijuana, then the PSOB benefit would be denied. However, if a firefighter was exposed to THC, while there is a potential for denial of benefit, the law allows the PSOB determining official to decide whether it was voluntary or not.

In closing the literature review, there was, obviously, no information available on whether or not this issue is a problem for the department. Some information was available on whether or not an individual could test positive from exposure and to what levels that could be, and there was conflicting information about whether or not insurance policies and PSOB benefits would be paid. With this limited information, these will be areas that will require specific research to be completed in order to be able to answer the research problem for this paper.

Procedures

A series of steps were taken to try and determine the answers to the research questions. The first step of the process involved a survey of department personnel to determine if this was even an issue for the department. The first research question asks about the history of use or exposure to medical marijuana by department personnel. Since there have been no documented cases of either use or exposure, the question becomes one of concern that personnel are not reporting it based on the legal issues.

Using SurveyMonkey.com, a web-based survey tool, a six-question survey was developed to obtain on the first research question (see Appendix A). The survey was sent to all seventy-one members of the department, representing operations (or line), administrative, fire prevention bureau, and support personnel. Since medical marijuana can be far reaching and can affect all aspects of the fire service, the entire department was chosen to participate to try and ensure that all possible answers and opinions on medical marijuana were received. This survey was conducted via the Internet between December 20th, 2010 and January 7th, 2011 and forty-six people responded to the survey.

Since there was limited information found during the literature review on whether this is a problem or not, an additional survey was completed of fire and EMS professionals throughout the United States. This survey (see Appendix B) consisted of seven questions, was also administered via SurveyMonkey and the Internet, and was distributed out to the membership of the International Association of Fire Chiefs (IAFC) EMS section Google group. This survey was conducted between December 20th, 2010, and January 7th, 2011, and seventy-seven people responded to the survey.

For the second step of the process, personal interviews were conducted with Captain Matt Packard, Colorado State Patrol (CSP) Hazardous Materials (HazMat) Section, Norman Lieberman, Senior Intelligence Officer with the Department of Homeland Security (DHS) assigned to the Colorado Information Analysis Center (CIAC), and Dr. Robin Koons, Emergency Response Coordinator for the Colorado Department of Public Health and Environment (CDPHE). These interviews were done to try and determine if this was an issue within these three agencies, whether or not policies or procedures had been implemented, and if they were aware of any employee who tested positive for THC from a job-related exposure. After explaining the purpose of the research, all three agreed to a short interview.

Matt Packard currently serves as the Captain overseeing the HazMat Section for CSP, and was interviewed on September 29th, 2010 at the CIAC in Denver, Colorado. The following questions were asked during the interview:

- Does the CSP have a policy or procedure in place that addresses the use of medical marijuana by troopers?
- From an operational perspective, can troopers test positive for THC if they have been exposed to it in the course of their duties?
- If so, are you aware of any specific cases involving exposure and THC positive tests?

Norm Lieberman currently serves as the DHS Senior Intelligence Officer assigned to the CIAC. With a military intelligence background, DHS experience, and a security clearance, the decision was made to interview him as federal employee working in a state that has legalized medical marijuana. Officer Lieberman was also interviewed on September 29th, 2010, at the CIAC, and the following questions were asked:

- Does DHS have a policy or procedure in place that addresses the use of medical marijuana by DHS employees?
- If so, does the policy differ for employees in states where medical marijuana has been legalized?
- If no policy exists, does anything prevent him from using medical marijuana?

Robin Koons, Ph.D., currently serves as the Emergency Response Coordinator for the CDPHE. She has a Ph.D. in occupational and environmental epidemiology, served as an assistant professor at Colorado State University's (CSU) Department of Environmental Health, and provides technical support on public health and medical issues. Dr. Koons was interviewed on October 6th, 2010, at the Douglas County Emergency Operations Center (EOC) in Castle Rock, Colorado. The following questions were asked during the interview:

- Does CDPHE have a policy or procedure in place that addresses the use of medical marijuana by CDPHE employees?
- From an occupational perspective, can first responders test positive from THC if exposed during the course of their normal duties?
- If exposure is possible, can tests indicate whether or not the level of THC is due to use or exposure?

These interviews would provide a couple of different perspectives on the needed information to answer the research questions.

The third step involved personal interviews with Dawn Parker, a former medical marijuana dispensary owner and former deputy sheriff, and Dr. David Muller, a psychiatrist in the Denver metro area who is regarded as one of the premier doctors with a significant

understanding of medical marijuana and the issues in Colorado. After explaining the purpose of the research, both agreed to the interviews and were asked the following questions:

- Is it possible to test THC positive from a secondary or occupational exposure?
- If so, can the test indicate whether the level of THC is due to use or exposure?

The final step involved personal interviews with Hope Janke, Director of the PSOB, and Linda Davidson, Claims Administrator with Genworth Financial. Again, the purpose of the research was explained to both, and they agreed to answer the following questions respective to their agencies:

- What is PSOB's and/or the insurance company's position on medical marijuana?
- If a claim listed medical marijuana in the history or THC in the toxicology report, would the claim be denied?
- Does either agency intend to establish a policy on medical marijuana use?

There were several limitations to the research being conducted. First, due to the specificity of the information needed for the first research question, there was obviously no data that specifically addressed the question. This was the reason for conducting both surveys.

Second, in trying to determine answers for the second and third questions, the existing research is contradictory. While some of the data states it is possible, other data states it is not. This lack of clarity is a significant limitation.

Finally, there is a general lack of data on this issue as a whole, but there are a lot of opinions on medical marijuana. While trying to remain neutral, it is possible that the data obtained might be influenced by these personal opinions, and therefore may not reflect the truly unbiased data needed to determine a logical, legitimate, and potentially legal result.

Results

The first step of the procedures was to conduct a departmental survey to answer the first research question previously listed. The survey results are detailed below, all questions listed in this area are sourced from the survey, and the survey can be found in its entirety in Appendix A.

The first survey question asked whether or not the member believed that the use of or exposure to medical marijuana is a problem that needs to be addressed by the department. Of the forty-six respondents, thirty-one, or 67.4%, believed it was a problem, while fifteen, or 32.6%, did not believe it was a problem that needed to be addressed.

If the respondent indicated a "no" answer, they were the asked to explain why they felt this was not an issue. Thirteen of the fifteen provided answers that included it is not the department's responsibility, it should be treated the same as alcohol, it is not worth the time and expense for one or two people, if it is legal, then it should be treated as any other prescription, and if used medicinally, medical marijuana is not a problem. Further evaluation of these answers will occur in the Discussion section below.

The second survey question asked that on a scale of 1 to 5, with 1 being the least important and 5 being the most important, where would the member rate the need to address this issue in the department. Again, forty-six respondents answered the question with nine, or 19.6%, rating it as a 1 or not needed, eight, or 17.4%, rating it as a 2 or minor issue, fourteen, or 30.4%, rating it as a 3 or moderate issue, nine, or 19.6%, rating it as a 4 or significant issue, and six, or 13%, rating it as a 5 or required issue. Of the total responses, the average score for this question was a 2.89.

The third question asked whether or not the member was aware of any member who has or is currently using medical marijuana. Forty-four, or 95.7%, of the forty-six respondents indicated no, while two, or 4.3%, indicated yes.

Question four asked if the member was aware of a member who may have been exposed to medical marijuana through the course of their duties. Thirty-seven, or 80.4%, of the forty-six responses indicated no, while nine, or 19.6%, indicated yes that they were aware of potential occupational exposures to members.

Question five asked if they were aware that if they tested THC positive, they may be denied Public Safety Officer Benefits as well as potential life insurance benefits in a LODD. Again, forty-six respondents answered the question. Of those forty-six, twenty-eight, or 60.9%, indicated yes they were aware, and eighteen, or 39.1%, indicated that they did not know.

The final question then asked if question 5 changed their opinion on whether this issue should be addressed by the department, and to explain their answer. Twelve, or 26.1%, of the forty-six indicated yes that this did change their opinion, and thirty-four, or 73.9%, indicated it did not change their opinion. In the responses listed to explain their answer, these responses included statements such as the department needs to make members more aware of the hazards, risk factors by the public should not jeopardize benefits, the department and the fire service need to address the issue, if someone is using medical marijuana, they should still qualify for benefits, and a comparison to smoking, high cholesterol, and heart disease was made. Again, the entire survey and all of the answers can be found in Appendix A.

The second step in the procedures involved conducting a national survey to quasi-answer the first research question to determine if other fire and EMS agencies had addressed this issue, and whether their findings could be relevant to the department.

The first question was simple and asked whether marijuana had been legalized in their state. Of the seventy-seven respondents, thirty-eight, or 49.4%, indicated yes, while thirty-nine, or 50.6%, indicated no.

The second question then asked that if the response to question 1 was yes, then have they formally addressed the use and/or exposure to medical marijuana in their department. There were forty-two respondents to this question, and seven, or 16.9%, stated yes, while the remaining thirty-five, or 83.3%, said no.

Question three asked if medical marijuana was legal in their state and they had not formally addressed its use and/or exposure to, did they intend to. If they responded yes, they were then asked when, and if no, they were also asked to explain why. Of the forty-one respondents, twenty-two, or 53.7%, indicated yes, while nineteen, or 46.3%, indicated no. Thirty-one respondents went on to explain their answers which included whenever it becomes an issue or time permits, collective bargaining, it has not been an issue, as soon as state regulations are published, policies don't differentiate between medical marijuana and not, and that the state labor relations board would need to address it first.

Question four asked the respondents if they believed it was a problem that needed to be addressed, and if not, why? Fifty-one people answered the question with thirty-five, or 68.6%, stating yes, and sixteen, or 31.4%, stating no. Of those who indicated no, some of their answers included that there is no issue with impairment from exposure or second-hand smoke, and in one case, it has already been addressed. The primary reason listed as to why it has not been addressed is that it has not been a problem.

Question five, the same as the question in the department survey, asked on a scale of 1 to 5, with 1 being the least important and 5 being the most important, where would they rate the

need to address this issue in the fire service. Fifty-three people answered the question with two, or 3.8%, answering 1 (not needed), twelve, 22.6%, answering as a 2 (minor issue), sixteen, 30.2%, indicating it was a 3 (moderate issue), ten, 18.9%, answering as a 4 (significant issue), and thirteen, 24.5%, indicating that it was a 5 (required issue). The average rating of the respondents was 3.38 out of five.

The sixth question asked if they had formally addressed this issue with an SOP, SOG, Directive, etc., would they be willing to share it. Of the thirty-one responses, eighteen, 58.1%, said yes, and thirteen, 41.9%, said no. Those that stated no indicated that they didn't have a policy to share.

The final question of this survey asked for any other comments. There was a wide variety of comments that included things such as it is already included in our drug free work place policy, there was no policy in place, the International Association of Firefighters (IAFF) will challenge any policy and then the city leaders will have to decide what to do, there is random drug testing already, and synthetic marijuana has caused far more scrutiny. Generally speaking, the majority of responses indicated that there was no policy in place.

The process then moved to the interview portion. As part of the interview process, Captain Packard (Packard, personal communication, September 29th, 2010) provided his background with the CSP as well as his current assignment overseeing the HazMat Section. In his response to the first question as to whether or not CSP has a policy in place, he stated no. When asked why, he stated that even though it was legal in Colorado, there has not been a specific issue within the CSP to cause them to address this issue. He went on to state that there is a standard drug free workplace policy, but it does not specifically address medical marijuana. He did state that all members of the CSP are required to take random drug tests when notified to

do so, and testing positive for THC can result in disciplinary action up to and including termination.

From his HazMat experience, Captain Packard was asked if, from an operational perspective, troopers could test positive for THC if they were exposed to it in the course of their duties ranging from patrol to motor carrier inspections to drug interdictions. He stated that, to his knowledge, this was not possible. In all operations where troopers may be exposed to or handling marijuana, proper protective equipment is to be worn and should prevent any exposure. He answered the last question by stating that he was not aware of any specific cases where troopers had tested positive for THC due to exposure.

In interviewing Officer Lieberman (Lieberman, personal communication, September 29th, 2010), he provided his background as a former military intelligence officer and now DHS intelligence officer, that he has had the opportunity to review material about medical marijuana as it relates to homeland security issues, and that he now serves as the supervisor for the six state region around Colorado.

His response to the questions was that DHS does not have a specific policy in place addressing medical marijuana. Since there is no policy, there is no differentiation for DHS employees who may live in states where medical marijuana has been legalized. In response to the last question, Officer Lieberman stated that although there was no DHS policy in place, one specific item prevents him from using medical marijuana, and that is his security clearance. He stated that in order for him to keep his security clearance, he is prohibited from using marijuana in any form, and if he were to test positive, he could lose his clearance as well as his job. He went on to state that this applies to any individual who has a security clearance, regardless of whether they are a federal, state, or local employee.

Dr. Koons (Koons, personal communication, October 6th, 2010) provided her background and credentials. Her response to the first question was that although CDPHE is the medical marijuana regulatory agency for the State, CDPHE itself did not have a policy in place in reference to the use of medical marijuana. As stated by other interviewees, the primary reason is that there has not been an issue with the use by employees.

In response to the second and third questions, Dr. Koons stated that the potential for occupational exposure does exist, but that the research on this issue is fairly dated and contradictory. As with any chemical agent, THC can be transferred from the plant on to skin, but that the amount of exposure that would be needed for a responder to test positive for THC would have to be very significant, and she was unsure what that amount would be. She also stated that she did not believe that the current tests for THC could indicate whether it was a result of use or exposure.

The next interview was done with Dawn Parker, a retired deputy sheriff and former medical marijuana dispensary owner. In interviewing Mrs. Parker (Parker, personal communication, December 7th, 2010), she provided her background and training as a law enforcement officer (LEO) as well as her experience in the medical marijuana industry.

She stated that while she knew that there was the ability to test for THC through a urinalysis or blood test, she was not aware if a responder could test positive for THC because of an occupational exposure. She went on to state that this had never been addressed while she was a LEO, and that in all of the literature that she had reviewed for her dispensary, she had seen nothing on occupational exposures. She did state that she understood that the blood or urinalysis test could not indicate whether or not a positive THC test was indicative of use or exposure.

Mrs. Parker recommended that I speak to Dr. David Muller in Denver on these two specific questions.

Dr. Muller was then contacted as part of the interview process. Dr. Muller stated (Muller, personal communication, January 7th, 2011) that he was a doctor of psychiatry, he has been a doctor for over 50 years, he graduated from Georgetown University, and that he has undertaken significant study of the medical marijuana issue. Located in the affluent Cherry Creek North area of Denver, over half of his practice is devoted to the issue of medical marijuana. Prior to answering the research questions, Dr. Muller wanted it to be known that while there is a lot of controversy surrounding medical marijuana, he is allowed by federal law to write prescriptions for Marinol, which is an FDA-approved drug that is a synthetic THC, and that an individual could test positive from this federally legal drug.

Dr. Muller stated that it could be possible for someone to test THC positive from a secondary or occupational exposure, but that the amount of the exposure would have to be very significant. Even so, if an exposure occurred, the test for THC cannot really indicate whether it is positive from exposure or use. He continued that even if an exposure did occur and a test was given, the amount of THC in the system would be relatively small in the first couple of hours, and would probably not register at all within six hours. He explained that body composition has a lot to do with how a person processes the THC, so if two people consumed the same amount of THC, they would produce two separate and different results.

The final portion of the procedures involved interviews with Genworth Financial and PSOB. Linda Davidson (Davidson, personal communication, December 5th, 2010) is a Claims Administrator with Genworth Financial, a firm that offers life insurance through a variety of carriers. Ms. Davidson stated that, generally speaking, insurance companies have not taken a

position on the issue of medical marijuana. The challenge they have is that the laws are inconsistent between states as well as with the federal government.

She went on to state that each claim is reviewed on a case-by-case basis. While testing positive for THC doesn't automatically negate a policy, the review process would require an in-depth look at why the claimant tested positive. If there is any indication of fraud in that the use of marijuana was not disclosed in the application, then the benefits could be denied. However, she expects that as more states legalize medical marijuana, companies will begin specifically addressing this issue. In short, there is no one definitive answer. Each case will be reviewed on its own merits, and a final decision would be made then. At this time, there is no indication that companies will issue direction on this issue.

The last interview was with Hope Janke, Director of PSOB. In speaking to Ms. Janke on this issue (Janke, personal communication, December 29th, 2010), she stated that PSOB has not taken a position on medical marijuana as it relates to PSOB benefits. This is due to the fact that there have been no cases brought before PSOB where a ruling could be issued. On the question of whether or not a claim would be denied if medical marijuana was listed or the toxicology report showed a THC positive test result, she stated that every case goes before the review board for evaluation. The board looks at all of the issues surrounding the case, and then makes the determination whether to grant benefits or not. Although federal law does list marijuana as a reason for denial of benefits, the review board has the final say.

When asked whether or not PSOB intended to issue a policy on this, Ms. Janke stated that they did not intend to issue a policy as there have been no rulings in which to base policy on. She went on to state that the way to get a ruling, position, or policy on this would be to submit a claim for review where medical marijuana was present. This would then allow the review board

to render a decision upon which further guidance or policy could be determined. Until this happens, she stated that PSOB will not have a position on this.

Discussion

The results of the research indicate that there are a number of issues that exist when it comes to medical marijuana and the department.

As there was nothing to compare the survey results to when it came to the question of whether or not this was even a problem in the department, the survey results did indicate that the majority of respondents from within the department felt this was important enough to address. Surprisingly, two respondents stated that they were aware of someone in the department who had used medical marijuana. This in and of itself warrants further efforts to develop some sort of policy that addresses this issue. Currently, the Town has policies in place that address drug use and prescribed drugs (TCR Personnel Guidelines, 2005, p. 3-2), but, again, these do not address medical marijuana.

The other surprising piece of the department survey was the number of people who did not believe this was an issue. Of the respondents to the survey, 36% believed that this was a minor or non-issue. Interestingly, this compared to 26% of the respondents in the national survey who also indicated this as a minor or non-issue. This was validated by specific comments from respondents that stated either it was not an issue or they had not had a problem with it as of yet (Croom, 2010).

When looking at this data and comparing it to the data obtained from the interviews from state and federal employees, it is seen the same way at the state and federal level in not being an issue. Neither the states nor the federal government has issued policies or procedures on this issue (Packard and Lieberman, personal communications, September 29th, 2010).

While respondents in both surveys indicated some level of concern for the benefit process, there was also feedback that if a person chose to use medical marijuana, then they should still be covered by benefits. Others felt that someone else should take up the issue prior to their agency doing so, and yet others indicated that it is a labor issue.

Regardless of all of these points, it is very clear that is a problem that does need to be addressed. Based on the survey, the department has members who have used medical marijuana as well as those who may have been occupationally exposed to it. With a lack of policy, the department's vision of "To be the best - - at providing emergency and prevention services" (CRFD *Vision Statement*, 2008) is not being met. The department can't be the best if it is not addressing an issue that directly affects responders and customers.

The data collected on THC exposure and testing matches what was found in the literature review in that this information is somewhat inconclusive and contradictory. As seen in the comments from Captain Packard, Dr. Koons, Mrs. Parker, and Dr. Muller, THC exposure from second-hand or occupational exposure could occur, but potentially could not. Hayden (1991) noted that exposure to second hand smoke in the lab could contribute to a positive urinalysis, but that it, "should not affect drug test results in the workplace". Cone, et al. (1987), found similar results in their research and also indicated that test subjects were exposed to significantly higher levels than what most people would tolerate. Again, the Canadian report (1972) indicated that one-half of THC is available in smoke after it is burned, the same report indicates, "the literature is inconsistent". There was also no literature found that addressed the issue of occupational exposure to THC as a result of absorption through the skin.

When it comes to determining whether the test results indicate use versus exposure, although not concrete, there may be a better understanding to this process. As the interviews

revealed that both urinalysis and blood tests can't necessarily rule out use versus exposure, this researcher believes that tests in and of themselves can indicate use.

Dr. Muller explained that the quantity needed to test THC positive from exposure would have to be significant, and this is validated by Hayden (1991) and Cone, et al. (1987) as noted previously. Urine tests can't indicate impairment, only THC metabolites as it breaks down in the body. Metabolites are waste by-products, and they do not appear immediately in the in urine as THC has to break down first (DPEG, 2010). As this could take a few hours before a positive result could be determined, a person who was occupationally exposed could excrete all metabolites within just a couple of hours due to the low level of THC in their system to begin with.

A positive urine test would indicate that a person has used marijuana within approximately three weeks (DPEG, 2010). Depending on how heavy the use as well as a person's body composition, this time frame could be more or less. Therefore, it is reasonable to deduce that if a person tests positive for THC in a urinalysis, then it is probably the result of use and not exposure.

This is further supported by blood tests as well. The terminal half-life of THC can last anywhere from 20 hours to 10 days, and depending on potency and body composition, these time frames can change as well (Bonsor, 2010). Since plasma THC levels in occasional users can be negligible within eight to twelve hours (NHTSA, 2010), this, too, indicates that any detectable levels above approximately 5 ng/ml (or 10 ng/ml in blood serum) would indicate use and not exposure.

Therefore, while THC tests are not definitive in determining whether a positive test is due to use or exposure, the numbers indicate that if a positive test is received, then it is more likely

due to use. This at least allows an agency to begin building a policy with definitive test numbers or results that could potentially exclude occupational exposure. The caution comes with the limitation of the studies that currently exist, and the lack of accurate data that ensures a person cannot have a significant positive test from occupational exposure.

In reviewing the last portion of the results as it relates to the final research question, these, too, are similar to what was found in the literature review.

Insurance companies have indicated that the use of marijuana is not an automatic exclusion from a policy or denial of benefits (Beyondquotes.com, 2010). This coincides with the statements made by Ms. Davidson as it relates to insurance companies and policies. While fraud is a concern (FedPrimeRate.com, 2010), typically, as long as the use of medical marijuana is provided to the insurance company, the person would be covered if a claim were to be filed. And, if smoking medical marijuana, a person should expect to pay smoker's rates as opposed to a premium rate (Beyondquotes.com, 2010).

Finally, the position of PSOB as it relates to medical marijuana is somewhat concerning. While it is understood that there have been no cases filed where medical marijuana has been part of the claim (Janke, personal communication, December 29th, 2010), the fact that PSOB has not taken a position on this issue presents, in this researcher's opinion, a significant challenge. Whereas several sections of 42 U.S.C. Chapter 46 specifically address Schedule I drugs, it clearly states that marijuana is listed as a Schedule I drug (US DEA, 2011), and benefits can be denied if it is determined that voluntary intoxication exists (42 U.S.C. Chapter 46, 1976), the PSOB's lack of a position could jeopardize the benefits of an injured or fallen public safety officer. The time to establish a position would be now, rather than when it occurs, since proactive results seem to be far better than reactive results.

There is clearly a risk that department firefighters could lose injury or death benefits if they test positive for THC. Based on the comparison of this research to what is currently being done elsewhere, it appears that this research is the tip of the iceberg on this issue. There are still many questions that need to be answered, yet definitive research does not exist. A limited number of states have legalized medical marijuana which has resulted in federal government agencies standing behind the fact that marijuana, in any form, is an, "addictive drug with significant health consequences to its users and others" (US DEA, 2010). However, there are potential opportunities that exist. By continuing research and working with agencies and states that are also addressing this issue, a reasonable and well thought out policy could be created that reduces the chances of firefighters losing benefits. If this can be accomplished by the department, this would tie directly back to the department's vision statement "To be the best - - at providing emergency and prevention services" (CRFD *Vision Statement*, 2008) by ensuring that the responders' issues have been addressed.

Recommendations

After completing the research for this final EFO paper and evaluating the results, there are several recommendations that should be evaluated for further consideration as they apply to the department. While most of the recommendations apply directly to the department and town, these could be valuable for other organizations facing the same issue. The last recommendation in particular applies to the fire service as a whole.

The recommendations are as follows:

- The department, in conjunction with human resources and legal counsel, should implement a policy on the use of medical marijuana by employees. In order to develop this policy, recommendations below will also need to be implemented.

- The department should engage technical resources to determine what limits should be in place for employees using medical marijuana. By gaining this input, the department can determine to what level and position employees using medical marijuana can function.
- The department should contact the appropriate agencies or institutions to request further studies of medical marijuana as it relates to this research problem. Studies that address the use of and exposure to THC by responders can assist in developing better policies on this issue.
- The department should engage the PSOB to take a proactive, as opposed to reactive, position on medical marijuana. If the PSOB were to establish a position on this prior to an event occurring, this could prevent the loss of benefits for an injured or LODD public safety officer. At a minimum, the department should have a very clear understanding of the PSOB process as it relates to benefits and medical marijuana.
- The department needs to remain focused on the vision statement. As fire and EMS services continue to change and while looking at an unknown future, the department has to be able to adapt to these changes in order to ensure the vision continues to be met. Medical marijuana is but one example of change the fire and EMS services is facing.

The final recommendation, as stated in three previous EFO papers (Croom, 2006, 2008, 2009), is that fire and EMS need to continue to aggressively pursue research to support the mission of our service. We still have limited research to justify some of our actions, procedures, and processes. We continue to experience LODDs even as technology has greatly

improved our ability. We must continue to be diligent in encouraging our peers in fire and EMS to take the next step, become better educated on the issues, standards, and political environments, become more involved in the processes and procedures, and work towards finding fact-based solutions. Medical marijuana is but one example where there is very limited research on this topic. As society progresses, so to do the social norms, and it would not be surprising if medical marijuana is legalized in all states within the next ten years.

Progress is being made, but at a rather slow pace. There are institutions and programs, such as the Learning Resource Center (LRC) serving as a repository for EFO research, the John F. Kennedy School, the Naval Postgraduate School, and a number of four year institutions offering fire and EMS degrees, which are providing opportunities for fire and EMS leaders to become better educated. After four years in the EFO program, it is obvious that this continues to be a challenge for some members of both fire and EMS. We have to be able to overcome the attitudes or we will not be able to move forward. We must have the science to justify what we do and why. Otherwise, it will only continue to become more difficult to provide a high level of service that is expected by not only our personnel, but by our customers as well.

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Appendix A

Below is the complete text of the survey in its entirety that was issued to the department, along with all responses and additional answers where provided. Spelling and grammar were corrected in the respondent's answers for this document.

For my final Executive Fire Officer paper, I have chosen to address the issue of medical marijuana use and exposure as it relates to our personnel. I would appreciate it if you would take a few minutes to complete this short survey. This survey will close at 1700 hours on January 7th, 2011, so please complete it before then. All responses are anonymous, so I would appreciate your honest opinion.

1. Do you believe that the use of or exposure to medical marijuana is a problem that needs to be addressed by the department?

answered question	**46**
skipped question	**0**

	Response Percent	Response Count
Yes	**67.4%**	**31**
No	32.6%	15
If No, please explain. Hide Responses		17

1. Do you believe that the use of or exposure to medical marijuana is a problem that needs to be addressed by the department?

25 responses per page

1.	Should fall in same category as ETOH use which is legal but is not allowed and affects our ability to do our job.
2.	At this point if a member is using medical marijuana, it would be 1or 2 out of 68 if that. It is not worth the time and expense to deal with.
3.	If you need to use it for a medical issue, then you are probably not fit for work.
4.	no more than the use of or exposure to alcohol needs to be addressed
5.	Yes. If a member is prescribed medical marijuana will they be able to use it on duty. This definitely needs to be addressed.
6.	If it is a legal medicine then it should be treated no differently than other prescriptions.
7.	No, it would take a lot to become the victim of an "exposure". I do not think anyone would try to use medical marijuana as a standing member of the dept. If suspected exposure occurs, proper documentation would be completed.
8.	Not FD's responsibility.
9.	Used as prescribed medical marijuana is very safe. Like anything else if used to much it will be a problem. I think having it regulated by the state is a very good thing.
10.	I think that marijuana exposure is very minimal in our community and I don't believe that our staff uses marijuana.
11.	It's no more Hazardous then Cigarette smoke, Diesel Exhaust etc. If the exposure is extensive enough to raise questions about testing positive on a UA then that's a case by case issue.
12.	I believe the MVA policy needs to be evaluated. If a person is legally smoking marijuana on their own time and then they come to work 2 days later and get in an accident they will be required to take a drug test. Marijuana is a drug that stays in your system for up to 6 weeks, so how do you address the positive drug test.

1. Do you believe that the use of or exposure to medical marijuana is a problem that needs to be addressed by the department?

13.	If used in moderation and for medicinal purposes only, medical marijuana is NOT a problem. It is my opinion that as long as the job performance requirements are still being met, our department should allow the use of medicine marijuana while off duty.
14.	I view it like etoh beverages. if someone uses it one or right before duty they are risking themselves and others just like etoh. IF your under the influence then one should be subject to the same rules.
15.	There is no "problem" with marijuana in our department in the first place. Also, I certainly don't think we run enough calls that involve marijuana to warrant any department action.
16.	I do not see a long term effect from its use.
17.	Use yes, exposure, I don't think so. Wouldn't exposure be the same as being at a concert where people are smoking? I've heard that really doesn't expose you to enough to matter.

2. On a scale of 1 to 5, with 1 being the least important and 5 being the most important, where would you rate the need to address this issue in the department?

answered question	**46**
skipped question	**0**

	Not Needed	Minor	Moderate	Significant	Required	Rating Average	Response Count
Importance in the Department	19.6% (9)	17.4% (8)	**30.4% (14)**	19.6% (9)	13.0% (6)	2.89	46

3. Are you aware of a member who has or is currently using medical marijuana?

answered question	**46**
skipped question	**0**

	Response Percent	Response Count
Yes	4.3%	2
No	**95.7%**	**44**

4. Are you aware of a member who may have been exposed to medical marijuana through the course of their duties?

answered question	**46**
skipped question	**0**

	Response Percent	Response Count
Yes	19.6%	9
No	**80.4%**	**37**

5. Are you aware that if you test THC positive, you may be denied Public Safety Officer Benefits as well as potential life insurance benefits in a LODD?

answered question	**46**
skipped question	**0**

	Response Percent	Response Count
Yes	**60.9%**	**28**
No	39.1%	18

6. Does question 5 change your opinion on whether this issue should be addressed by the department?

answered question	**46**
skipped question	**0**

	Response Percent	Response Count
Yes	26.1%	12
No	**73.9%**	**34**
Please explain. Show Responses		24

	6. Does question 5 change your opinion on whether this issue should be addressed by the department?
1.	Accidental exposure on a scene could have negative effects on myself... with little way to document that the exposure was not from recreational use or exposure at a concert etc.
2.	THC positive or ETOH you should be denied.
3.	I think that this fact is just another point to emphasis and cover in training when addressing this issue.
4.	Make members aware.
5.	Risk factors by the public should not put my benefits in jeopardy.
6.	Medical marijuana is more prevalent in today's society - to deny me benefits because I am taking a legal medication with a prescription is grounds for a large law suit.
7.	There are many substances that could affect employment. If an exposure is documented properly the member should not be in danger of losing employment or benefits.
8.	I believe a thorough investigation into the circumstances is necessary and the issue would not be black and white.
9.	I feel it needs to be addressed prior to having an issue.
10.	I think if someone is using medical marijuana as prescribed they should still qualify for benefits.
11.	The department, as well as the fire service on the national level, must address this! Marijuana access and use will only become easier and easier over the next decade or so!
12.	I think the department needs to have a directive in place if someone is to the point they need to smoke a joint to feel better, what the possible circumstances are if something goes wrong. To add to that, who is ultimately responsible.
13.	Besides the loss in benefits, it still needs to be addressed on the affects it can have being exposed to it while in the process of performing your duties, such as

	6. Does question 5 change your opinion on whether this issue should be addressed by the department?
	the immediate effect to make good judgments while performing a medical assist after someone has used THC and the crews are exposed to the second hand smoke.
14.	Even though the risk of exposure is low, I would not want to have any staff member denied benefits because they were exposed to marijuana while on duty.
15.	I think exposure reports would take care of any concern over testing positive for THC
16.	Public Safety Officer Benefits and life insurance benefits in a LODD should also be re-evaluated in the case where THC is positive. There are over-the-counter medications that can be more harmful to job performance than THC. Besides, isn't heart disease and stroke a bigger issue in the fire service? What's the stance on testing positive for high cholesterol or having higher levels of triglycerides in an LODD? How many fire service members come to work hung over from an alcohol binge the night before? Tobacco use and caffeine consumption happens all day long while on duty... Overall, it's a new age. Be responsible, hold yourself accountable, and there should be no issue.
17.	I don’t believe that a public Safety Officer or a public servant should be allowed to have Medical Marijuana. If this is a case on where the individual needs to have it then maybe disability should be an option.
18.	That was my concern in agreeing that it needed to be addressed.
19.	did not know. Is there a clause for exposure do to work. ie one goes on a call and is exposed and maybe exposure paperwork should be filled out.
20.	I answered no because its not even an issue in our department.
21.	It does not change my opinion, and I think it is unfortunate that if it came down to that, that my family will be at a severe loss.
22.	I had no idea that was true. Since it is true, then it should be addressed by not only the CRFD, but also probably the DOJ and FPPA in relation to LODD benefits. I just assumed we probably didn't/don't have anyone using medical marijuana and also didn't know it could affect the benefits. Lack of education

	6. Does question 5 change your opinion on whether this issue should be addressed by the department?
	about things seems to be a theme with me lately! ;-)
23.	I believe it needs to be address due to the legal issues if any of our personal are found to be under the influence and are either injured, killed. The other issues are if they are found to have test positive and someone else was injured or killed.
24.	The department should educate its members on current and projected policies (local, state, federal) related to exposure, & possible prescription use of medical marijuana

Appendix B

Below is the complete text of the survey in its entirety that was issued out over the Google group, along with all responses and additional answers where provided. Spelling and grammar were again corrected in the respondent's answers for this document.

For my final Executive Fire Officer paper, I have chosen to address the issue of medical marijuana use and exposure as it relates to personnel with the Town of Castle Rock Fire and Rescue Department. I would appreciate it if you would take a few minutes to complete this short survey. This survey will close at 1700 hours on January 7th, 2011, so please complete it before then. If you would like a copy of the results or of my final paper, please email me at ncroom@crgov.com.

1. Has medical marijuana been legalized in your state?

answered question	**77**
skipped question	**0**

	Response Percent	Response Count
Yes	49.4%	38
No (If no, click Next)	**50.6%**	**39**

2. If yes to Question 1, have you formally addressed the use and/or exposure to medical marijuana in your department?

	answered question	**42**
	skipped question	**35**

	Response Percent	**Response Count**
Yes	16.7%	7
No	**83.3%**	**35**

3. If medical marijuana is legal in your state and you have not formally addressed its use and/or exposure, do you intend to?

	answered question	**41**
	skipped question	**36**

	Response Percent	**Response Count**
Yes	**53.7%**	**22**
No	46.3%	19
	If yes, when? If no, why?	31

3. If medical marijuana is legal in your state and you have not formally addressed its use and/or exposure, do you intend to?

Hide Responses

10 responses per page

1.	Honestly when it becomes an issue or when time permits
2.	No events that were of concern
3.	It has not been a pre-hospital EMS issue for us
4.	Our Hazmat Team and Target Hazard Program are looking at identifying grow operations, their hazards and where they are located then sharing that info with the department.
5.	Dept. SOGs prohibit members from being under the influence while on duty. However, off-duty members could potentially use medical marijuana without violating department policies.
6.	I would think it would be addressed first at Labor Relations upon the legalization in our State (or potential of)
7.	It hasn't come forward as an issue at this point. We should address it at some point.
8.	It has not been talked about. The Chief may bring it up soon.
9.	Unknown at this time. Currently reviewing and updating SOPs. It will be addressed then.
10.	I am an industrial fire chief, and the corporation for which I work [a regulated electric utility] will have to address this issue across the entire corporation. Whatever is adopted by the corporate Human Resources & Labor Relations Section will apply to

10 responses per page

11.	Some discussion has already taken place on the issue of emergency responders being prescribed medical marijuana. Of major concern is how long traces of the marijuana remain detectable in the system and the effect on job

	3. If medical marijuana is legal in your state and you have not formally addressed its use and/or exposure, do you intend to?
	performance. I anticipate the city attorney will draft the policy with input from police and fire. Currently any supervisor can have an employee drug tested based on observed change in the employees job performance.
12.	prudent,
13.	As soon as the regulations for Arizona are published.
14.	The sensitivity and specificity of the lab tests for serum levels of cannabinoids are sufficient to differentiate between direct use and secondary exposure. Exposure to second-hand-smoke is not a reasonable concern.
15.	There's been some discussion about both exposure and employment issues around testing positive with a MM card. I think it's already been fairly well nailed down, but not is board level policy yet. We are also including the issue in a revision to our controlled substances policy, as we could see a situation in which a staff member is asked to take responsibility for someone's (legal) stash during transport.
16.	With our States Legislation convenes in February, we will be following very closely the issue of Medical Marijuana usage. We have several employees that live in neighboring states where this may be legal so we will need to address the issue
17.	2011 will have to address folks that have medical marijuana cards and when they are allowed to use it
18.	Lack of awareness, not being discussed yet.
19.	Our policy does not differentiate between medical marijuana and any use of marijuana. Result is discipline as it is potentially an impairment.
20.	Not sure when, but it will be.
21.	When the State and local governments can finalize their legal stances on the issue. Waiting for feedback or information from any department that has already attempted to address the issue.
22.	how will it effect on-duty firefighters, HR policies, etc
23.	We will wait until thing calm down and we can isolate the true problems and act

3. If medical marijuana is legal in your state and you have not formally addressed its use and/or exposure, do you intend to?

	accordingly.
24.	As soon as the State comes forth with a consistent interpretation of how the law is to be implemented.
25.	It is run by the State and is a rather new law. Once better defined we can make better decisions.
26.	January 2011 work session
27.	At this time, we treat this like any other exposure and follow up with tests and the like. While I think that this is a topic certainly worth researching, there are a plethora of other toxins that will kill our firefighters over time more than one or two exposures to medical cannibus.
28.	Because we are address this issue the same as we address all prescription drugs. The employee must notify us immediately. Employee cannot work under the influence of marijuana.
29.	Will present the issue to the WA Fire Chiefs and see if they have recommendations. 2011
30.	I don't know but plans are to do it within the next year or so
31.	Collective Bargaining

4. Do you believe that this is a problem that needs to be addressed?

answered question	**51**
skipped question	**26**

4. Do you believe that this is a problem that needs to be addressed?

	Response Percent	Response Count
Yes	**68.6%**	**35**
No	31.4%	16
If No, please explain. Hide Responses		15

10 responses per page

1.	Yes when legal
2.	Has not been a pre-hospital or EMS issue at this point.
3.	It's not a "problem" that needs to be addressed. It's an area that EMS personnel need to be educated on.
4.	I have not back from field personnel that they are being or have been exposed. We did have one situation where a large quantity was discovered during fire suppression.
5.	I do not believe we have an internal problem with pot.
6.	It has not been a topic of discussion within the department or even local/state EMS advisory boards.
7.	For the same reasons as above. Additionally, the serum levels predicted by exposure to second-hand-smoke do not relate to impairment at any level. In a review of passive inhalation studies, Hayden in 1991 (Passive inhalation of marijuana smoke: a critical review. J Subst Abuse 1991, 3(1) 85-90), reported that most studies support the proposition that passive inhalation should be seriously considered as a possible explanation for a positive urine test for marijuana, although he noted that passive inhalation does not have a major effect outside the laboratory. And more: screening tests need to be confirmed by gas chromatograph-mass spectrograph analysis, as positives may be obtained by consumption of non-psychoactive substances such as hemp-seed bars (Fortner N, Fogerson R, Lindman D, Iverson T, Armbruster D (1997) Marijuana

	4. Do you believe that this is a problem that needs to be addressed?
	positive urine test results from consumption of hemp seeds in food products. J Anal Toxicol 21(6):476-81), or milk from cattle grazing on wild cannabis (which could include hemp silage) (Ahmad GR, Ahmad N (1990) Passive consumption of marijuana through milk: a low level chronic exposure to delta-9-tetrahydrocannabinol (THC). J Toxicol Clin Toxicol 28(2):255-60).
8.	Yes, this drug can cause altered sensorium which is covered under our regulations.
9.	Most people with medical marijuana cards have a legal reason to use.
10.	Medical marijuana should be listed in the medications an individual cannot be under the influence of and work. Should be treated the same as narcotics, barbituates, etc.
11.	I think that this COULD be a problem, but not one that should be a priority for Public Safety. If we are receiving annual NFPA 1582 physicals, this should set the parameters for health. Most of these would exclude the use of cannibus from a volunteer or employee
12.	Not a foreseeable issue regionally
13.	It is no different the other mind altering prescriptions.
14.	Not currently a problem, but it has potential.
15.	Impaired is against the law already.

5. On a scale of 1 to 5, with 1 being the least important and 5 being the most important, where would you rate the need to address this issue in the fire service?

answered question	**53**
skipped question	**24**

	Not Needed	Minor	Moderate	Significant	Required	Rating Average	Response Count
Importance in Fire Service	3.8% (2)	22.6% (12)	**30.2% (16)**	18.9% (10)	24.5% (13)	3.38	53

6. If you have formally addressed this issue with an SOP, SOG, Directive, etc., would you be willing to share it?

answered question	31
skipped question	46

	Response Percent	Response Count
Yes	58.1%	18
No	41.9%	13

7. Any other comments?

answered question	17
skipped question	60

	Response Count
Hide Responses	17

10 responses per page

1. It is covered in our "Drug Free Workplace" Directive. They cannot engage in

	7. Any other comments?
	addictive behaviors on or off duty.
2.	we do not have anything at this time
3.	6 is actually N/A. If we had an SOP I would share.
4.	We would be willing to share but at this time we have not completed this process.
5.	I can't share a policy that is not issued yet; that's the only reason I answered "NO" to Question 6.
6.	As with any other change in the fire service some department will develop a medical marijuana use policy which will be cloned by other departments, it will be challenged by the IAFF then city officials will decide on how to best implement the policy.
7.	This is very new to the State of Arizona and we are anxiously awaiting the dissemination of the laws that will govern our protocols. If you would be willing to share your results, I'd appreciate it.
8.	Synthetic marijuana has brought far more public safety attention and community scrutiny than medical marijuana did when it was legalized.
9.	The only consideration to a policy that I might consider is one that addresses an employee who has been issued a prescription for medical marijuana. In this case the standard medical release would be required when the patient/employee is no longer using prescribed marijuana. Sequential testing might be considered to document the decreasing levels of metabolized cannabinoids and thus verify termination of use by the employee. The seriousness of medical conditions which justify medical marijuana would in all probability also result in disability retirement of the employee. An employee in documented remission and terminating medical marijuana would be the exception.
10.	I will share anything we have, once we have it. Check with me about both the employee policy and the SOP in the near future if you want them.

7. Any other comments?	
11.	We randomly draw names for drug and alcohol testing each month (annual rate of 50% of the safety sensitive population). Use of any drug may lead to discipline including termination.
12.	No other comments at this time
13.	Have not addressed it yet
14.	I think a department policy that treats medical marijuana use in the same or similar manner as alcohol or prescription drug use on-duty is appropriate. Off-duty use is more difficult because it is still illegal federally.
15.	We have a zero tolerance for alcohol and drug impaired firefighters while on duty, or when called out. They are told...if you are under the influence on ANYTHING, for any reason, do not respond. That is a city wide policy for all employees (electric, streets, water/wastewater, etc.
16.	Good Luck!
17.	Interesting subject here in Oregon. We have fitness for duty, so chronic pain could be an auto out exclusion depending on the injury or reason.